

Instructions for Field Equipment

Water Temperature

1. Place the aquatic thermometer directly into the stream.
2. Hold thermometer under water in the main flow of the stream (not in a pool) for two minutes. Read immediately and record temperature on the field form.

pH

1. Dip the test strip in the water and remove immediately.
2. Hold strip level for **15 seconds**.
3. Compare test pad to color chart on test strip bottle. Estimate pH and record results on the field form.
4. Dispose of test strip in waste container provided.

Dissolved Oxygen

1. For use with the CHEMets Oxygen Kit.
2. Fill sample cup to 25 ml mark, mixing water with air as little as possible! Put on safety glasses.
3. Place ampoule in sample cup, tilting so tip is wedged in corner of cup bottom.
4. Straighten ampoule. This will break off tip and ampoule will fill with water.
5. Mix water by inverting it slowly several times. Bubble will mix contents.
6. Two minutes from tip break-off, compare to color standards.
7. Estimate and record results on the field form

Ampoule may be disposed of in waste container provided. Avoid breaking ampoule open, as contents are mild skin and eye irritants. Liquid in the ampoule is light sensitive so avoid leaving the ampoule in direct sunlight.

Nitrate- N/Nitrite-N

1. Dip the test strip in the water for one second and remove.
2. Hold the strip level for **30 seconds**.
3. Compare the inner test pad to the nitrite-nitrogen color chart on test strip bottle and estimate the amount of nitrites in mg/l. Record the nitrite-nitrogen concentration on the field form.
4. Wait **30 more seconds (total 60 seconds)**.
5. Compare the outer test pad to nitrate-nitrogen color chart on test strip bottle and estimate the amount of nitrate-nitrogen in mg/l-. Record on the field form. Dispose of test strip in waste container provided.

Phosphate

1. Fill sample cup to **25 ml** mark. Add **2 drops of A-8500 Activator Solution**.
2. Place black cap on sample cup and shake to mix the contents.
3. Put on safety glasses.
4. Place ampoule in sample cup, tilting so tip is wedged in corner of cup bottom.
5. Straighten ampoule. This will break off tip and ampoule will fill with water.
6. Mix water by inverting ampoule slowly several times. Bubble will mix contents.
7. **Two minutes** from tip break-off, compare to color standards.
8. Based on the color of your ampoule, use the appropriate color comparator to determine the level of phosphate. The high-range comparator in the lid of the kit measures from 1 to 10 mg/L. Hold the high range comparator in a nearly horizontal position while standing directly beneath a bright source of light. Place the CHEMet ampoule between the color standards moving it from left to right along the comparator until the best color match is found. Record your result on the field form.

OR

(over)

The low-range circular comparator measures from 0 to 1 mg/L. To use the circular comparator, place your ampoule, flat end downward into the center tube. Direct the top of the comparator up toward a source of bright light while viewing from the bottom. Rotate the comparator until the color standard below the CHEMet ampoule shows the closest match. Record your result on the field form.

Dispose of ampoule and waste water in waste container. Avoid breaking ampoule open, as contents are mild skin and eye irritants.

Chloride

1. Fill sample cup to 60 ml mark.
 2. Remove a titrator from bottle and replace cap intermediately.
 3. Insert the lower end of titrator into sample cup. **Do not allow the yellow completion string located at the top of the titrator to become submerged in the water sample.**
 4. Allow water sample to completely saturate wick of titrator. Reaction is complete when yellow sting turns dark. This will take 5-10 minutes.
 5. Note when the tip of the white chloride peak falls on the numbered Quantab scale. This represents the Quantab- unit value.
 6. Refer to the table on the Quantab test strip bottle to convert the Quantab units into a chloride concentration and record results.
 7. If the Quantab unit is below 1.0, report the chloride concentration as <24 mg/l.
- Quantab test strips may be disposed of in waste container provided.

Transparency

1. Collect a fresh water sample by placing the transparency tube horizontal in the water, just below water level. Avoid disturbing any bottom sediment.
2. Place the tube upright on a flat surface
3. Pour sample water into the transparency tube until it is full.
4. Look directly into the tube and release water through the small hose, regulating the flow with the finger clamp, until you are able to just begin to distinguish the black and white pattern (secchi pattern) on bottom of the tube. When you can first distinguish the pattern, close the clamp.
5. Read the number on the outside of the tube that is closest to the water line. Record your reading in centimeters (cm).